

## **II. REMARKS**

Upon entry of the amendment, claims 31 to 40 and 51 to 59 will be pending.

### **A. Regarding the Amendments**

The Specification has been amended to indicate the priority of the subject application. The amendment addresses a formality and does not add new matter.

Pursuant to the Restriction Requirement, claims 1 to 30 and 41 to 50 have been cancelled herein without disclaimer, and without prejudice to Applicants' pursuing prosecution of the subject matter encompassed within one or more of the claims in an application claiming the benefit of priority of the subject application.

### **B. Regarding the Restriction Requirement**

It is maintained in the Office Action that the Restriction Requirement as previously set forth, and including previously omitted claim 27, was proper. Although the restriction requirement is traversed for the reasons of record, claims 1 to 30 and 41 to 50 nevertheless have been cancelled herein without prejudice in order to advance prosecution of the subject application.

### **C. Regarding the Priority**

It was pointed out in the Office Action that the priority information was not set forth in the subject application. The specification has been amended to address this formality.

**D. Regarding the Drawings**

It is noted that the drawing submitted with the subject application were informal. Applicants acknowledge the informalities noted with respect to the drawings, but respectfully defer submitting formal drawings until an indication is made that the application otherwise is in condition for allowance.

**E. Regarding the Information Disclosure Statement**

It is noted in the Office Action that references cited in the specification but not otherwise listed as required under 37 C.F.R. 1.98(b) have not been considered. Applicants acknowledge the Examiner's pointing out this matter, but note that references considered material to examination of the subject application were submitted as required by the Rules and gratefully acknowledge the Examiner's returning initialed copies of the Forms 1449 submitted with respect to this application.

It is also noted in the Office Action that the "Hepato-Nephromegalia Glykogenica" reference by E. Von Gierke (p. 498-513) was not considered as it was submitted in a language other than English without a certified translation or a concise explanation of relevance. However, this reference does not appear to have been cited in an Information Disclosure Statement or Form 1449 for this case. Accordingly, clarification of this objection is requested.

**F. Regarding the Specification**

It is requested in the Office Action that the presence of any errors in the specification be corrected, including, for example, the use of the trademark term "Stratalinker<sup>TM</sup>" at page 37, line 12. It is noted, however, that the term "Stratalinker<sup>TM</sup> UV device" is recited at the page 37, line 12, and, therefore, that the trademark term is properly used. Alternatively, clarification of this rejection respectfully is requested.

**G. Rejection under 35 U.S.C. § 112**

The rejection of claims 31 to 40 and 51 to 59 under 35 U.S.C. § 112, second paragraph, as allegedly vague and indefinite respectfully is traversed.

It is stated in the Office Action that claim 52 and 56 are indefinite because it is unclear as to what the term "spatially addressable" entails. It is further stated that the "claim recites antibody rearrangement, but the term is not defined in the disclosure." (Office Action at paragraph 11A.). As an initial matter, it is noted that the claims do not recite "antibody rearrangement." As such, Applicants are uncertain of the issue being raised in the Office Action and respectfully request clarification of this matter.

As to the term "spatially addressable," it is submitted that the commonly understood meaning of the terms "spatially" and "addressable" would lead one skilled in the art to understand the term to refer to a position that is defined in "space" by a particular "address." Furthermore, the specification discloses that the uncharacterized antibodies are bound in an array of discrete spots whose "spatial location" can be easily identified (page 6, lines 8-10). Thus, the skilled artisan, viewing the claims, which refers to "locations of the antibodies arranged in an ordered matrix that is spatially addressable," in light of the specification, which indicates that a discrete spot in an array has a spatial location, would know that the term "spatially addressable" means that each of the spots in an array is characterized by a specific address, depending on its position in the array.

Applicants further submit that the concept of the positions in an array being defined by an address, i.e., spatially addressable, is well known in the art. For example, Heller et al. describe a method of producing "specially designed addressable microscopic locations" (see U.S. Pat.

No. 5,605,662, which was cited by the Examiner in support of a prior art rejection; see column 9, lines 16-18). As such, it is submitted that the concept of "addressable" positions in an array is well known and, further that the skilled artisan, viewing the claims and the specification, and having knowledge of the art, would know that the term "spatially addressable," when used in reference to an "ordered matrix" (see claims 52 and 56), wherein the matrix comprises discrete spots in a identifiable "spatial location" (page 6, lines 8-10), means that any particular position in the array can be defined by its position in the array. Accordingly, it is respectfully requested that the rejection of the claims under 35 U.S.C. § 112, second paragraph, be removed.

#### **H. Prior Art Rejections**

The rejection of claims 31, 32, 36 to 38, and 51 to 59 under 35 U.S.C. § 102(b) as allegedly anticipated by Vestal (U.S. Pat. No. 5,498,545) respectfully is traversed.

The claims are directed, in part, a kit comprising an array of a plurality of uncharacterized antibodies located at discrete locations on a solid surface. It is submitted that Vestal does not teach or suggest "a plurality of uncharacterized antibodies located at discrete locations" on a solid surface and, therefore, does not anticipate the claimed invention.

As stated in the Office Action, Vestal describes a system for analyzing samples, including a sample holder having a surface upon which a plurality of biological samples are placed. The Office Action then sets forth how Vestal describes arranging or placing the samples in a known or unknown pattern, how the samples can be made to undergo a reaction, and how the reaction products can be measured.

Vestal describes a system for mass spectrophotometric analysis of a sample, which can a sample in an array (column 1, lines 6-10). The reference describes use of the system for

sequencing DNA (column 13, line 17, to column 18, line 8), and generally indicates that the system "may also be used for determining the molecular weight of various large molecules, such as biological and industrial polymers (column 2, lines 34-36). However, the reference does not teach or suggest "an array of a plurality of uncharacterized antibodies located at discrete locations on a solid surface", as required by the claims and, therefore, does not anticipate the claimed invention. Accordingly, it is respectfully requested that the rejections of claims 31, 32, 36 to 38, and 51 to 59 under 35 U.S.C. § 102(b) as anticipated by Vestal be removed.

The rejection of claims 31, 32, 36 to 38, and 51 to 59 under 35 U.S.C. § 102(b) as allegedly anticipated by Heller et al. (U.S. Pat. No. 5,605,662) respectfully is traversed.

It is stated in the Office Action that Heller et al. describe a microelectronic device designed and fabricated to carry out molecular biological reactions, wherein the reactions, which can include an antibody/antigen reaction, are positioned on a substrate in an addressable position. The Office Action also sets out a specific example of the system of Heller et al.

Heller et al. refer to antibody/antigen reactions as those that can be performed using the system (column 5, lines 28-31), and that an antibody can be a "specific binding entity" that is localized on an addressable microscopic location (column 5, lines 36-40; column 6, lines 24-41). However, the reference does not teach or suggest that an antibody at such an addressable microscopic location can be an "uncharacterized antibody", and does not teach or suggest "a plurality of uncharacterized antibodies located at discrete locations" as required by the claims. Accordingly, it is respectfully requested that the rejections of claims 31, 32, 36 to 38, and 51 to 59 under 35 U.S.C. § 102(b) as anticipated by Heller et al. be removed.

The rejection of claims 33 to 35, 39 and 40 under 35 U.S.C. § 103(a) as allegedly obvious over Vestal or Heller et al., in view of Patterson et al. (U.S. Pat. No. 5,821,063) respectfully is traversed.

The Vestal and Heller et al. references are applied as discussed above. Patterson et al. is applied as describing methods and apparatuses for sequencing polymers using mass spectrometry, wherein the polymer can be any a naturally-occurring biopolymer such as a protein, peptide, or modified version thereof. It is alleged in the Office Action that it "would have been obvious to one of ordinary skill in the art at the time the invention was made to use recombinant single stranded antibodies as taught by Patterson et al. in the method of Vestal or Heller et al...." (Office Action, page 11). However, a review of the Patterson et al. reference failed to reveal any teaching or suggestion of "single chain antibodies" or "recombinant antibodies." Accordingly, clarification of this matter is respectfully requested.

Furthermore, as discussed with respect to the rejections under 35 U.S.C. § 102(b), neither Vestal nor Heller et al. teaches or suggests "a plurality of uncharacterized antibodies located at discrete locations on a solid surface." Similarly, Patterson et al. do not teach or suggest such a plurality of uncharacterized antibodies and, therefore, fails to provide the teaching that is missing in the above cited references. As such, it is submitted that the claimed invention would not have been obvious to one of ordinary skill in the art in view of the cited references and, therefore, is respectfully requested that the rejection of the claims under 35 U.S.C. § 103(a) be removed.

In re Application of  
Hoeffler et al.  
Application No.: 09/245,615  
Filed: February 4, 1999  
Page 9

PATENT  
Attorney Docket No.: INVIT1100-1

In view of the amendments and the above remarks, it is submitted that the claims are in condition for allowance, and a notice to that effect respectfully is requested. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this application.

No fee is deemed necessary in the filing of this paper. However, if any additional fee is required, authorization is hereby granted to charge any additional fees, or make any credits, to Deposit Account No. 50-1355.

Respectfully submitted,

Date: \_\_\_\_\_

4/25/01

Lisa A. Haile

Lisa A. Haile, Ph.D.

Reg. No. 38,347

Attorney for Applicant

Telephone No.: (858) 677-1456

Facsimile No.: (858) 677-1465

GRAY CARY WARE & FREIDENRICH LLP  
4365 Executive Drive, Suite 1600  
San Diego, California 92121-2189  
USPTO Customer Number: 28213